

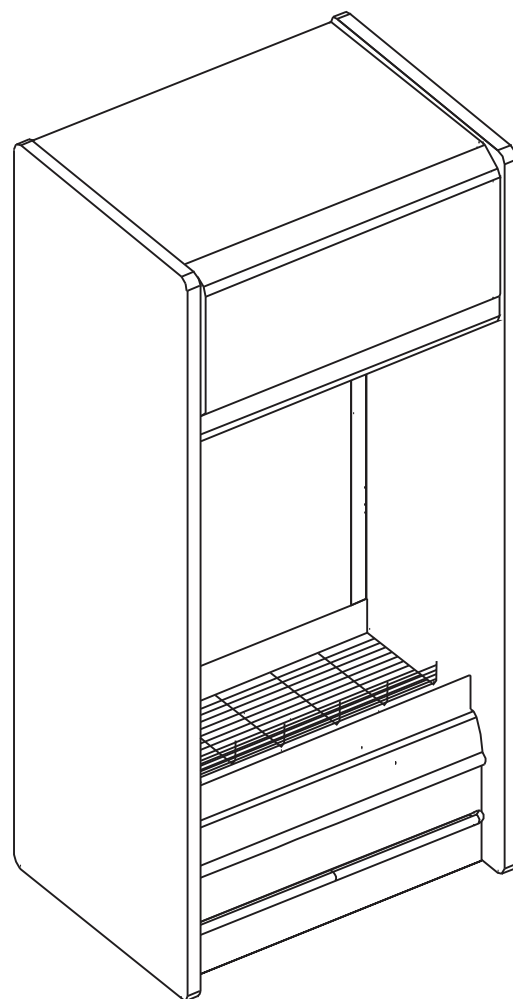
## INSTALLATION & OPERATION

# HANDBOOK

## ONNA-3<sup>1</sup>

### CASES

#### NARROW MULTI-DECK



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### **DANGER**

Remove hands and feet from beneath the case before the casters are removed. Failure to do so may result in serious injury when the case is lowered.



### **DANGER**

Once an outrigger have been removed, **DO NOT** push or attempt to move the case until all remaining outriggers are removed. Doing so may cause the case to tip over, possibly resulting in serious injury or death.



### **DANGER**

#### **SHOCK HAZARD**

Always disconnect power to case when servicing or cleaning. Failure to do so may result in serious injury or death.

# GENERAL INFORMATION

Welcome to the Hill Phoenix display case family. We're very pleased that you've chosen Hill PHOENIX for your food merchandising needs.

This handbook is targeted to individuals involved in the installation and/or operation of Hill Phoenix display cases and contains detailed illustrations and important information about the product. By closely following the manual's instructions, you can expect peak performance, attractive fits and finish, and long case life from the product.

We are always interested in your suggestions for improvements (e.g. case design, technical documents, etc.), so please feel free to contact Marketing Services at the toll-free number listed below. Thank you for choosing Hill Phoenix, and we wish you the very best in outstanding food merchandising.

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## Description of Cases

Specifically covered in this manual is the Model ONNA-3' narrow multi-deck merchandiser.

## Store Conditions

Hill PHOENIX cases are designed to operate in an air-conditioned store that maintains a **75°F (24°C) store temperature and 55% (max) relative humidity (CRMA conditions)**. Case operation will be adversely affected by exposure to excessively high ambient temperatures and/or humidity.

## Receiving Cases

Examine fixtures carefully for shipping damage and shortages. For information on shortages, contact the Service Parts Department at the toll-free number listed to the right.

## Apparent Damage

Claims for obvious damage must be 1) noted on either the freight bill or the express receipt and 2) signed by the carrier's agent; otherwise, the carrier may refuse the claim.

## Concealed Damage

If damage becomes apparent after the equipment is unpacked, retain all packing materials and submit a written request to the carrier for inspection within 14 days of receipt of the equipment.

## Lost Items

Equipment has been carefully inspected to insure the highest level of quality. Any claim for lost items must be made to Hill PHOENIX within 48 hours of receipt of the equipment.

## Technical Support

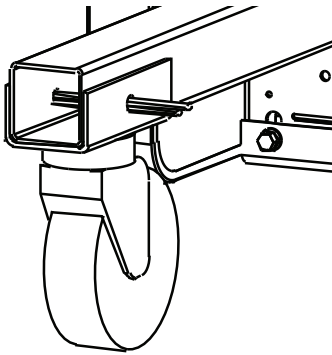
For technical questions regarding display cases, please contact our Case Division Customer Service Department at the toll-free number listed below.

## Contacting the Factory

If you need to contact Hill PHOENIX regarding a specific fixture, be certain that you have both the **case model number and serial number** - this information is on the serial plate located on the lower rear baffle of the case (see page 4 for details). When you have this information, call the toll-free number below and ask for a Service Parts Representative.

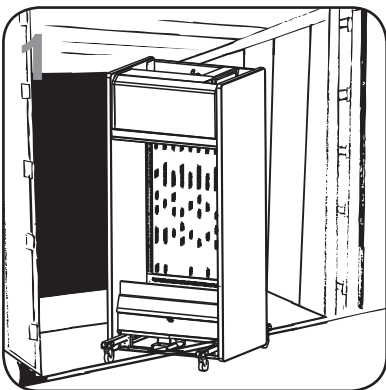
Hill Phoenix  
1925 Ruffin Mill Rd.  
Colonial Heights, VA 23834  
Tel: 1 (800) 283-1109  
Fax: (804)-526-7450  
Web site: [www.hillphoenix.com](http://www.hillphoenix.com)

# USING OUTRIGGERS



Hill Phoenix cases are manufactured and shipped to stores with outriggers installed on the base frame. This ensures that moving the cases is easier for everyone involved in the manufacturing, shipping, and installation processes.

Outriggers also reduce the risk of cases being damaged by the raising and lowering of the cases with a "J" bar when placing them on dollies, skates, or rollers. In most situations, one or two persons can move the case with ease.



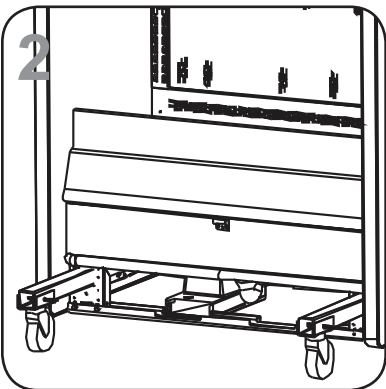
## Step 1

If there is a truck-level delivery dock, cases may be rolled directly from the truck to the store floor.

**IMPORTANT:** If skid boards are required for unloading cases, outriggers should be removed prior to sliding cases down the skid (see Diagram 3). When unloading is complete, re-install the outriggers.

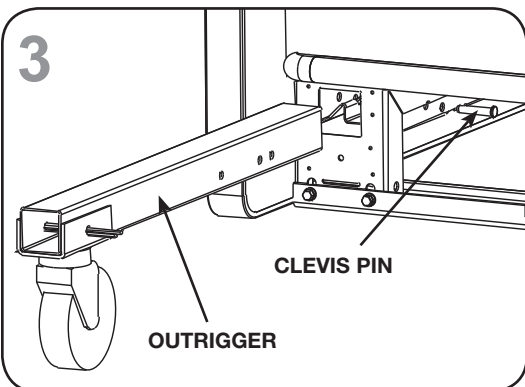
## Step 2

Prior to final installation, outriggers may remain in place to help move cases to staging areas throughout the store. When you're ready for final line-up, roll the cases to the set position and remove the outriggers.



## Step 3

Removing the outriggers is easy. Lift the case with "J" bar; carefully remove the clevis pins underneath and pull the outriggers out; then lower the case. Discard the outriggers.



### **DANGER**

Remove hands and feet from beneath the case before the casters are removed. Failure to do so may result in serious injury when the case is lowered.

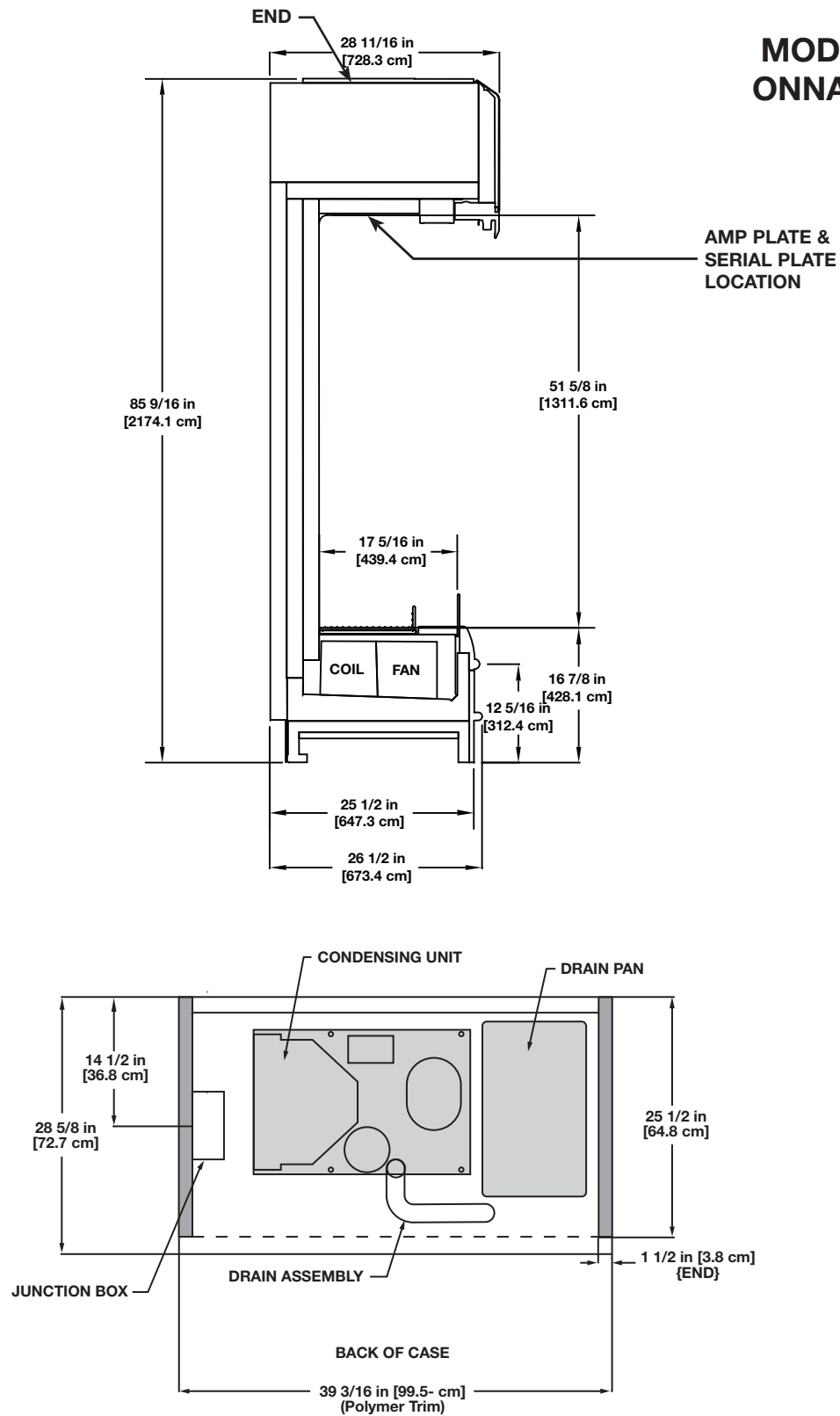


### **DANGER**

Once an outrigger have been removed, **DO NOT** push or attempt to move the case until all remaining outriggers are removed. Doing so may cause the case to tip over, possibly resulting in serious injury or death.

# CASE DIMENSIONS

**MODEL  
ONNA-3'**



# CASE OPERATION

## System Requirements

Model		Volts	Phase	Hz	Wire	Minimum Circuit Ampacity	Maximum Overcurrent Protection	Connection Plug
ONNA	3'	120	1	60	2 wire + ground	15.5	20	NEMA - L5-20

## Electrical Data

Model		Fans per Case	Standard Fans		Condenser Fans		Drain Pump		Evaporator Pan Heater		Drain Heater	
			120 Volts		120 Volts		120 Volts		120 Volts		120 Volts	
			Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
ONNA	3'	2	0.68	34	0.53	55	1.0	120	4.16	500	0.32	40

## Guidelines & Control Settings

Model		24 Hour Energy Usage (kWh)	Suction Pressure @ Case Outlet (psig)	Superheat Set Point @ Bulb (°F)	Discharge Air (°F)	Return Air (°F)	Discharge Air Velocity <sup>1</sup> (FPM)
ONNA	3'	24.3	17	6-8	34	46	200

<sup>1</sup> Average discharge air velocity at peak of defrost.

## Condensing Unit Data

Model		Volts	Phase	Frequency (Hz)	HP	RLA <sup>2</sup> (amps)	LRA <sup>3</sup> (amps)	Refrigerant	Refrigerant (lbs.)
ONNA	3'	120	1	60	1/2	9.30	36.0	R134A	2.20

<sup>2</sup> RLA = Running Load Amps.

<sup>3</sup> Locked Rotor Amps.

## Defrost Controls

			Electric Defrost		Timed Off Defrost		Hot Gas Defrost		Reverse Air Defrost	
Model		Defrosts Per Day	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)	Fail-Safe (min)	Termination Temp (°F)
ONNA	3'	6	---	---	28	52	---	---	---	---

Low Temperature Defrost Schedule	
No. Per Day	Hours
1	12 midnight
2	12 am - 12pm
3	6 am - 2pm - 10pm
4	12 am - 6am - 12pm - 6pm

All measurements are taken per CRMA specifications.

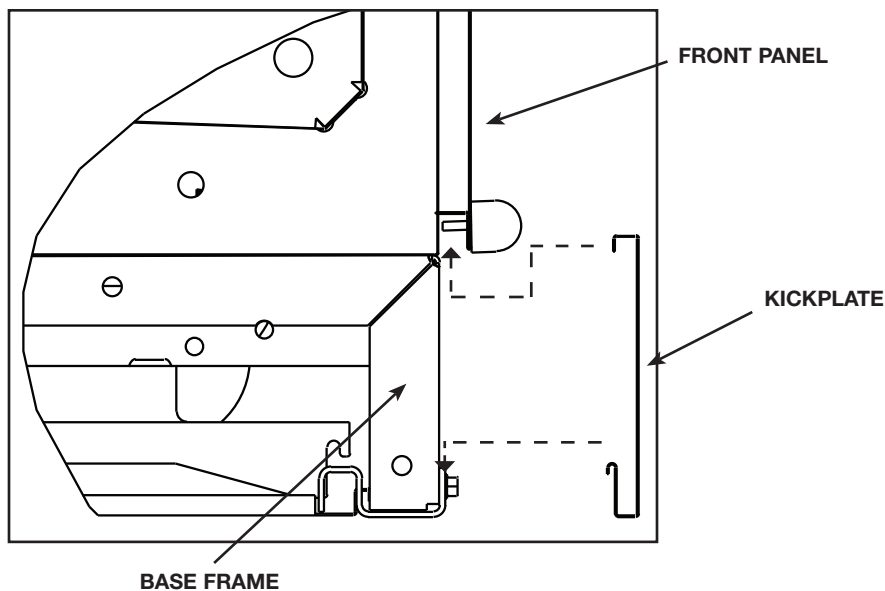
# INSTALLATION

The ONNA-3' is shipped with most of the exterior panels and trim already installed. The only exterior parts that need to be installed when the case arrives are the kickplate and the back lower-panel.

For lower back-panel installation, slide the back-panel up under the channels, then use the supplied screws to fasten to the baseframe (see illustration below for details).

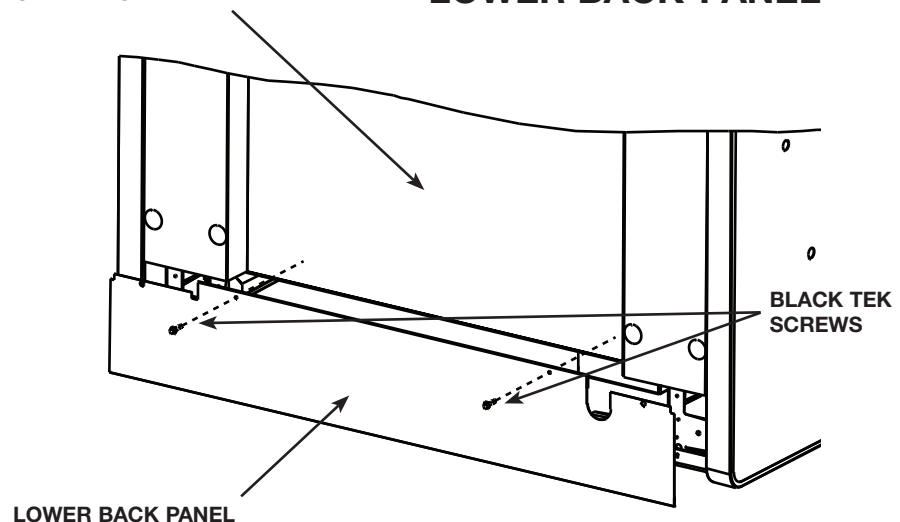
The kickplate, which is shipped in the case, simply slips upward behind the front panel and then down onto the baseframe.

## KICKPLATE



LOWER BACK PANEL

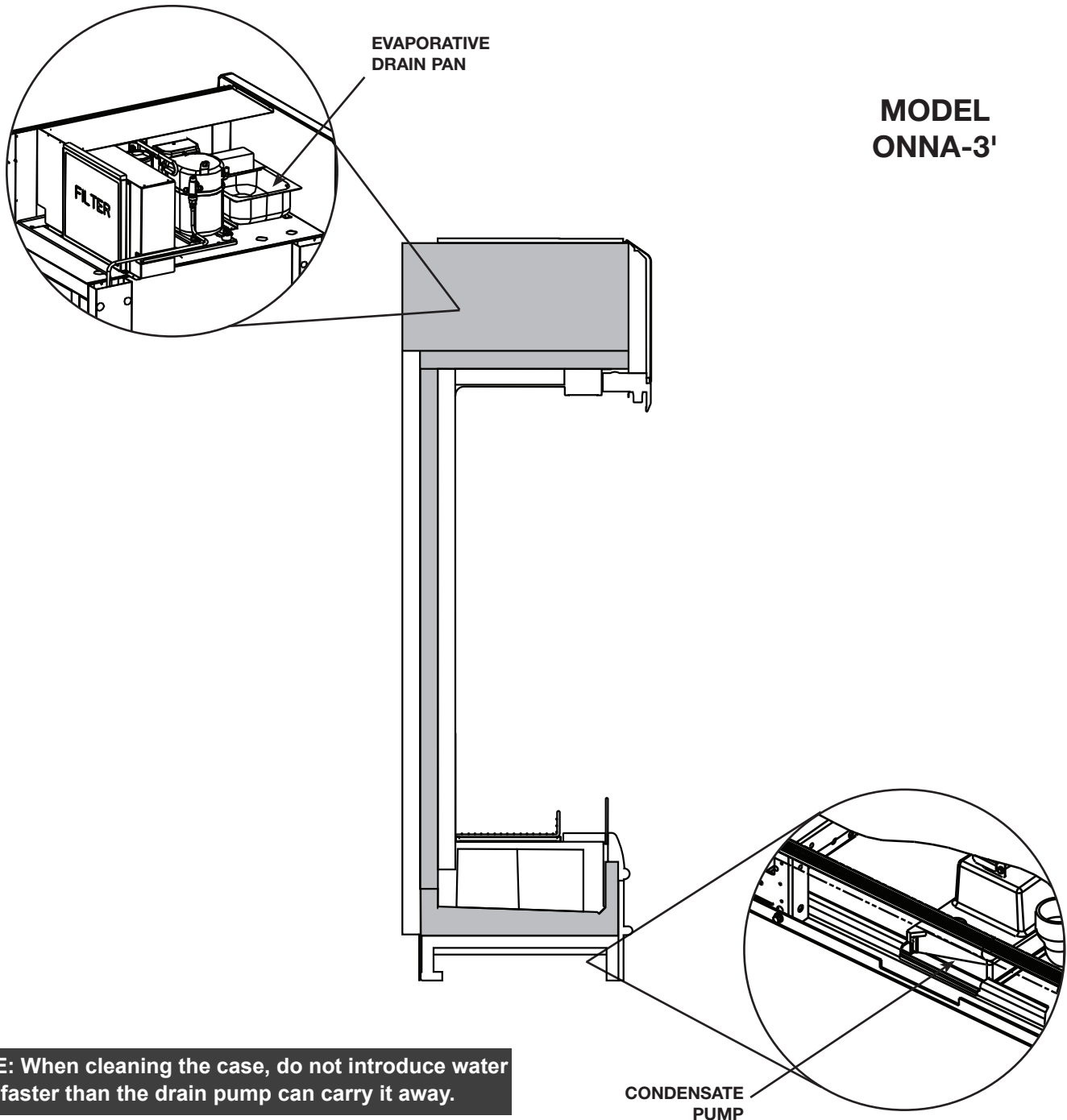
## LOWER BACK-PANEL



# PLUMBING

All of the plumbing components are attached to the case at the factory; therefore, no assembly is required. The case drain is located front-and-center of the cases for convenient access and is made of cast metal. The “P” trap, furnished with the case, is made from PVC pipe. Should any future maintenance issues arise, care should be given to assure that all connections are water-tight and sealed with the appropriate PVC cement and primer.

The case run-off is channeled to a condensate pump located underneath the case as shown below. The water is then pumped to an evaporative drain pan on top of the case, where an electric heater evaporates the run-off. When cleaning the case, be sure not to introduce water faster than the drain pump can carry it away.





# REFRIGERATION COMPONENTS

**Access Valve** - Access port on the evaporator that allows service personnel to check system pressure.

**Accumulator** - A device installed on the suction line that is used to boil off small amounts of liquid refrigerant so liquid does not reach the compressor.

**Compressor** - An electrically driven piston pump that pumps vapor refrigerant from a low pressure level to a higher pressure level.

**Condenser** - The component in a refrigeration system that transfers the heat that was absorbed by the refrigerant in the evaporator and the heat of compression from the system by condensing the refrigerant.

**Condenser Fans** - Fan that forces air through the air cooled condenser to aid heat transfer.

**Dual-Pressure Control** - A device that protects the compressor from low charge and high pressure.

**Evaporator** - The component of the refrigeration system that absorbs heat from the air by boiling liquid refrigerant to vapor.

**Evaporator Fans** - Fans that circulate air through the case and force air through the evaporator to aid heat transfer.

**Filter Drier** - A device installed on the liquid line of a refrigeration system that removes water and other impurities from the refrigerant in the lines during initial start-up.

**Receiver** - The component in a refrigeration system that stores liquid refrigerant that is not being used by the system in low load conditions or when the system is shut down.

**Service Valve** - A manually operated valve in the refrigeration system that is used for various service operations such as isolating the high or low sides of the system.

**Sight Glass** - A device installed on the liquid line of a refrigeration system that is used to determine if there is water or vapor in the lines by visual inspection.

**Thermostatic Expansion Valve (TXV)** - A valve that controls the flow of liquid refrigerant to the evaporator coil and also separates the high pressure side of the system from low pressure side of the system.

**Thermostatic Expansion Valve (TXV) Bulb** - A bulb that is attached to the suction line of the evaporator that controls the TXV. Inside the bulb is a charge that reacts to temperature and regulates the flow of refrigerant through the expansion valve.

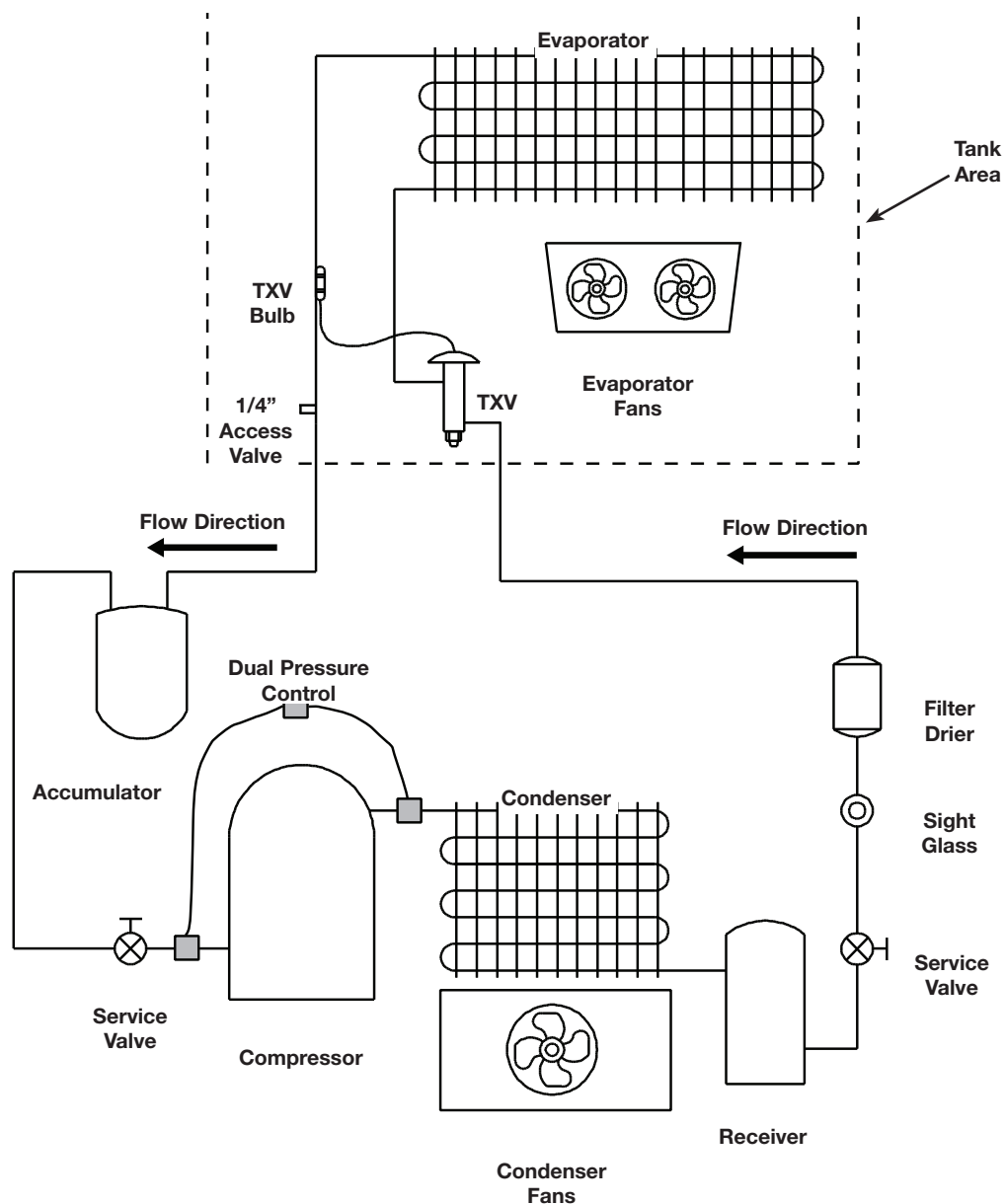
# REFRIGERATION PIPING

The expansion valve and other controls are located on the left-hand side of the case and are accessible without lifting the fan plenum.

The controls cluster may be reached by lifting only the left hand deck pan minimizing the need to unload product. The compressor and condensing unit are located on top of the case for easy access.

The diagram below illustrates all of the refrigeration components in the ONNA-3'. The components surrounded by the box are located in the case tank. Basic definitions of these components are listed on the preceding page.

If it becomes necessary to penetrate the case bottom for any reason, make certain it is sealed afterward with canned-foam sealant and white RTV.

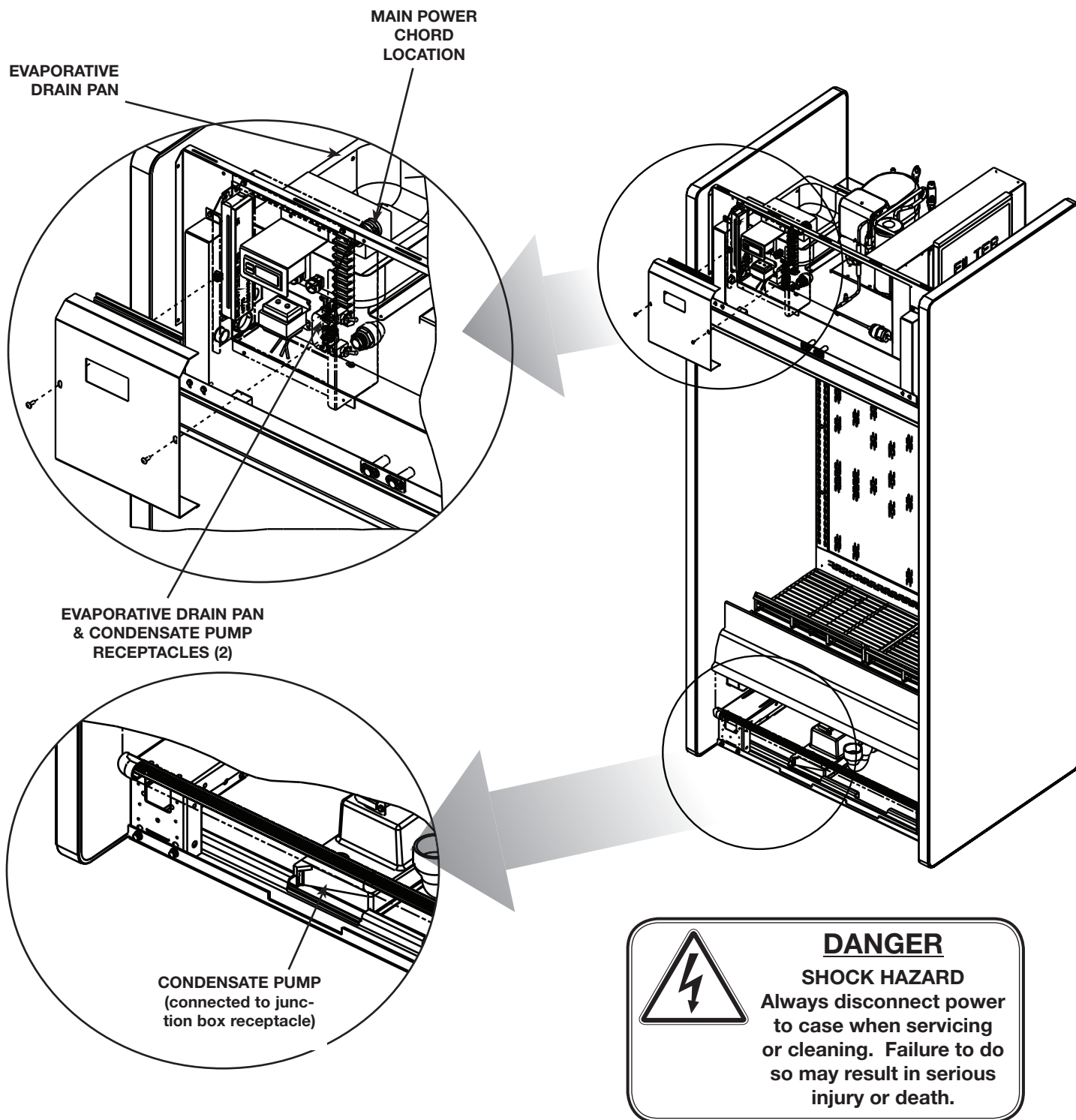


**MODEL  
ONNA-3'**

# ELECTRICAL HOOK-UP

No in-field wiring is required for installation of the ONNA - 3': all electrical connections have been completed prior to shipping. Simply plug the power chord into an appropriate electrical outlet.

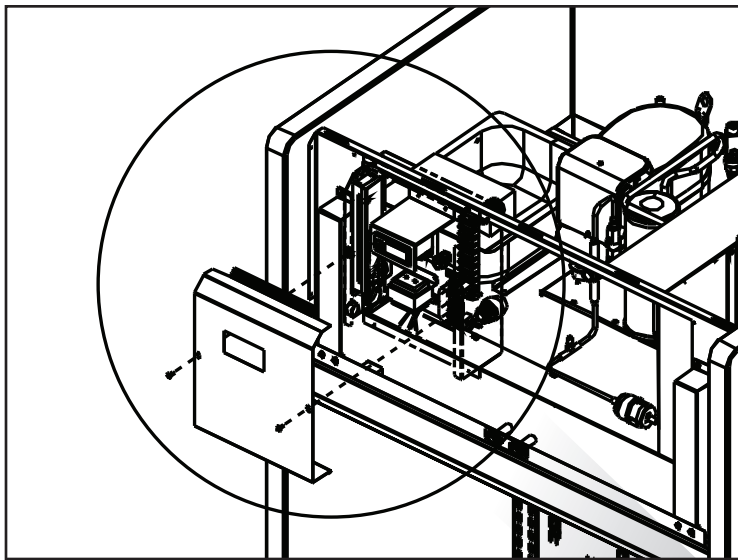
The condensate pump is plugged into a receptacle mounted in the junction box, behind the front removable panel (see below). NOTE: the receptacle is intended for use with the drain pump only and not as a power supply for any other equipment.



## HOW TO ACCESS BALLASTS

An electronic ballast operates the case lamp and is located in the electrical junction box behind the front panel.


To gain access to the ballast, you must remove the 2 screws on the front of the junction box access panel. The ballast is located on the left side of the junction box (see diagram below).



BALLAST BOX

JUNCTION BOX  
ACCESS PANEL

SCREWS



**DANGER**

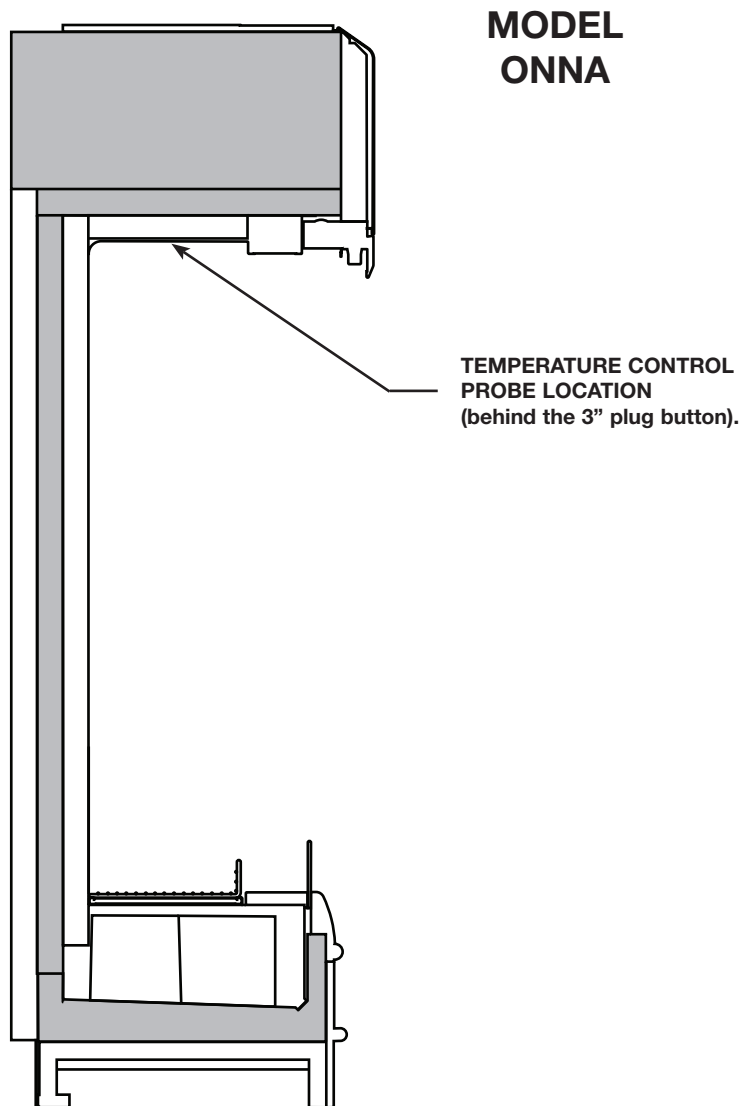
**SHOCK HAZARD**

Always disconnect power to case when servicing or cleaning. Failure to do so may result in serious injury or death.

# DEFROST & TEMP CONTROL

The ONNA uses timed-off defrost as its primary defrost method. Access to the termination control probe can be gained by simply removing the plastic plug in the flu-panel.

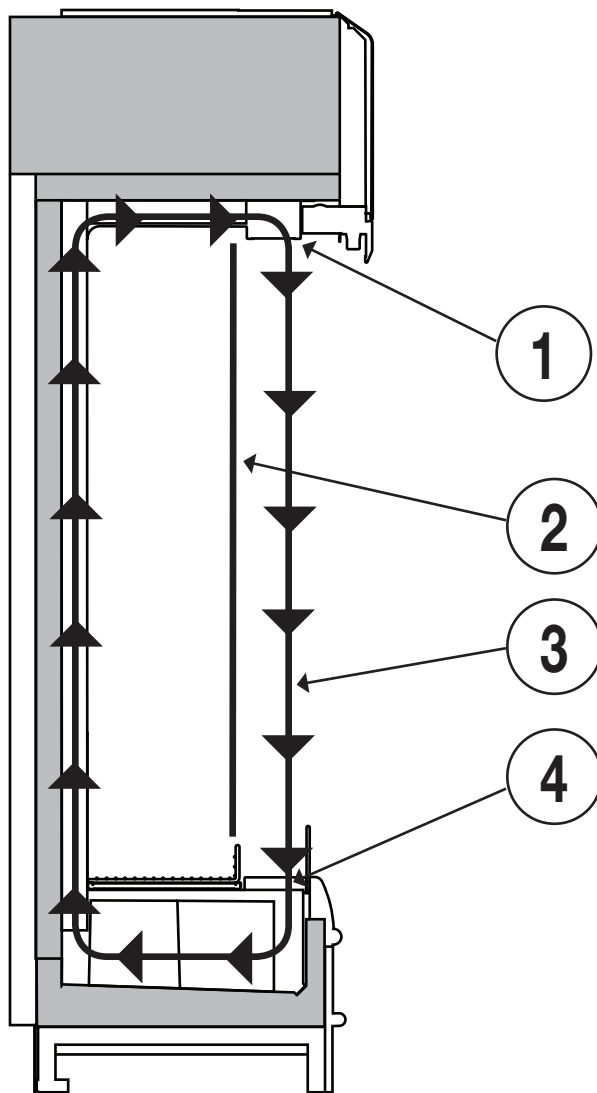
The temperature control probe is located behind the 3" plug button in the top flue panel (see diagram). Both of these probes are wired to the case controller that is mounted on the top of the case.



# AIR FLOW & PRODUCT LOADING

Cases have been designed to provide maximum product capacity within the refrigerated air envelope. It is important that you DO NOT overload the food product display to avoid impinging on the air flow pattern.

Overloading will cause malfunction and the loss of proper temperature levels, particularly when discharge and return air sections are covered. Please keep products within the load-limit lines shown on in the diagram below.



## MODEL ONNA

DISCHARGE.....1

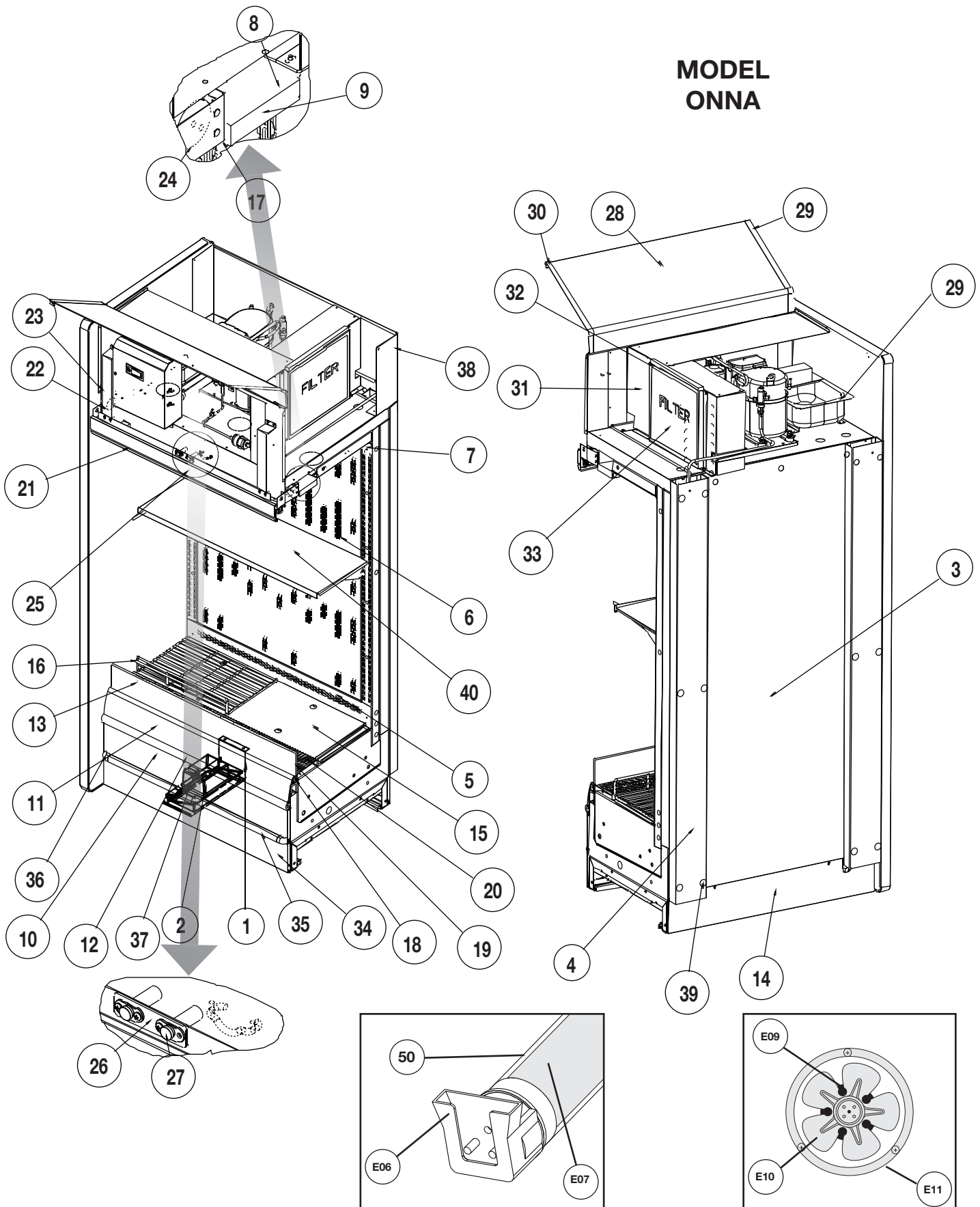
LOAD LIMIT.....2

AIR FLOW.....3

RETURN AIR GRILL...4

# PARTS ORDERING

**MODEL  
ONNA**



## **(Part Ordering, cont'd)**

<b>Location Number</b>	<b>Part Descriptions</b>	<b>Location Number</b>	<b>Part Descriptions</b>
1	Pump Bracket	25	Top-Front Lower Pan
2	March Pump Model	26	Magnet Support Bracket
3	Upper Back Panel	27	Catch Magnet
4	Rear Pipe & Wiring Covers	28	Removal Corner (upper front)
5	Lower Rear Baffle	29	Left Cover Joint Trim
6	Upper Rear Baffle	30	Right Cover Joint Trim
7	Flue Panel	31	Air Deflector
8	Rear Honeycomb Container	32	Filter Bracket
9	Plastic Honeycomb (indicate color)	33	Kickplate
10	Lower Front Panel	34	Spectra Bumper
11	Master Bumper	35	Spectra McCue Bumper
12	Nose Bumper	36	CGE McCue Bumper
13	Front Baffle Deflector	37	Night Curtain Retainer
14	Lower Back Panel	38	Upper-Rear Fascia
15	Deck Pan	39	Plug Button
16	Wire Rack	40	Shelf
17	Front Honeycomb Retainer	41	Evaporative Drain Pan
18	Plexiglass Retainer	50	Lamp Shield
19	Plexiglass	E06	Lamp Holder
20	Front Baffle	E07	Lamp
21	Lightrod Canopy	E09	Fan Motor (indicate Standard or High Efficiency)
22	Light Support Bracket	E10	Fan Blade
23	Light Support Stiffener	E11	Fan Basket
24	Light Curtain	E20	Fan Cord-Set (indicate Standard or High Efficiency)

## **Order Procedure**

1. Contact the Service Parts Department at 1-800-283-1109.
2. Provide the following information about the part you are ordering:
  - Model number and serial number of the case on which the part is used.
  - Length of part, if applicable, I.E. 36".
  - Color of part if painted, or color of polymer part.
  - Whether part is for left hand or right hand application.
  - Whether shelves are with or without lights.
  - Quantity

*\*Serial plate is located on top flue panel on the right hand side of the case (See illustrations on page 3).*
3. If parts are to be returned for credit, ask the Parts Department to furnish you with a Return Material Authorization Number.



# **APPENDIX A:**

# **WIRING DIAGRAMS**

### WIRING DIAGRAM FOR ONNA3

Submitted By: Frank Baze

Release Date: 02/06/08 ECN: 68262 Doc Number: R778689 Revision: 0

Revision 1 Released 03/07/08 by FWB, ECN 68502, Added Toggle Switch & Labels

Revision 2 Released 03/24/08 by FWB, ECN 68871, Changed Wiring to Recept.

Revision 3 Released 06/11/08 by FWB, ECN 69679, New Dixell & Added Blue Wire

Revision 4 Released 06/26/08 by FWB, ECN 69929, Moved Lamp Wire, Changed TB

**USE 22 AWG BELDEN 2 CONDUCTOR CABLE FOR INDICATOR LAMP**

**KEY:**

**BLACK** **L** LINE CONNECTION TO TERMINAL BLOCK  
**WHITE** **N** NEUTRAL CONNECTION TO TERMINAL BLOCK  
**GREEN** **G** GROUND CONNECTION TO TERMINAL BLOCK

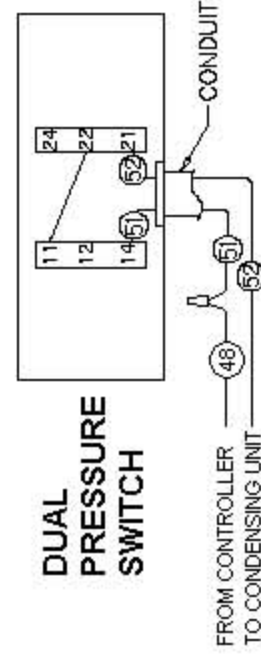
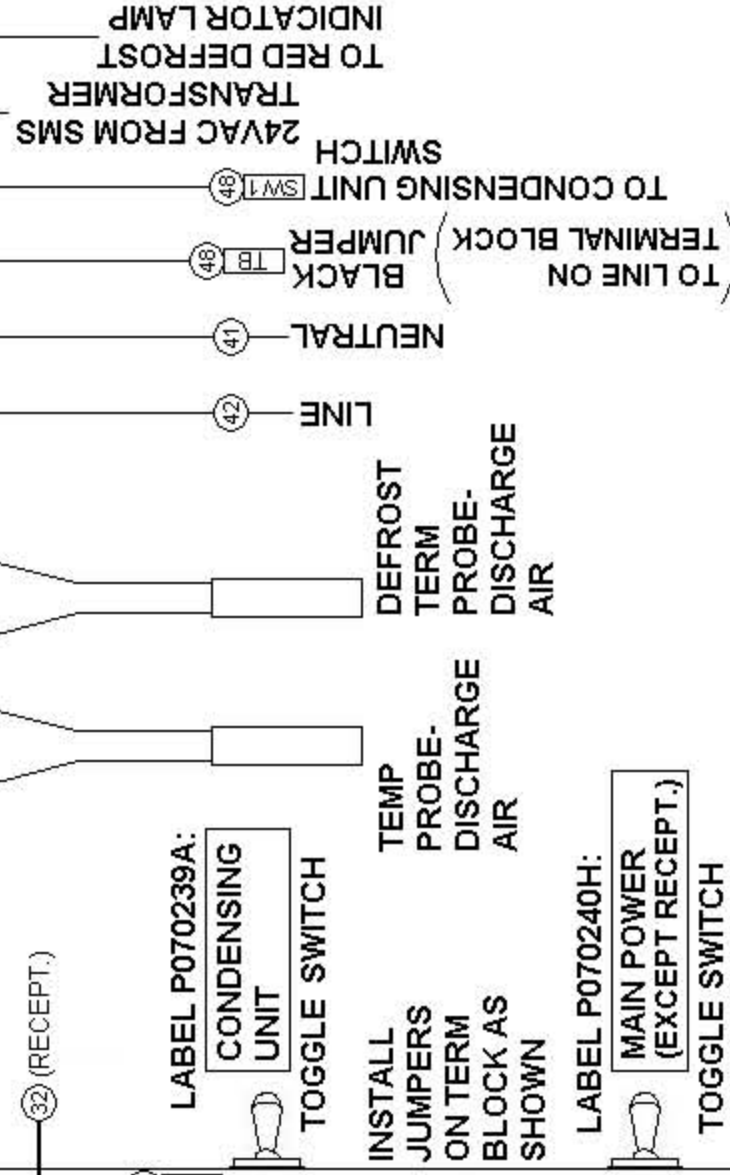
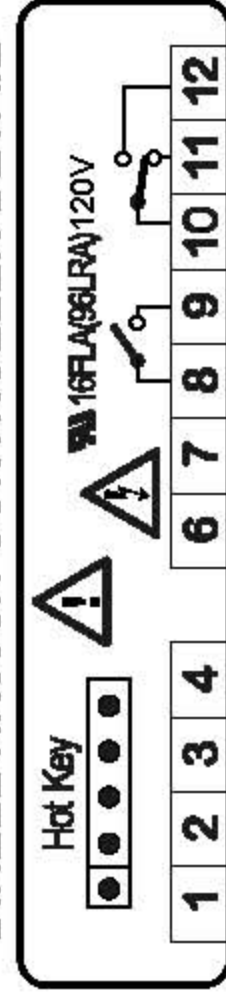
**NOTE: USE 10 AWG FOR POWER CORD**

USE 14 AWG FOR WIRES 42, 47, 48, 51, 52, JUMPER AND GND.

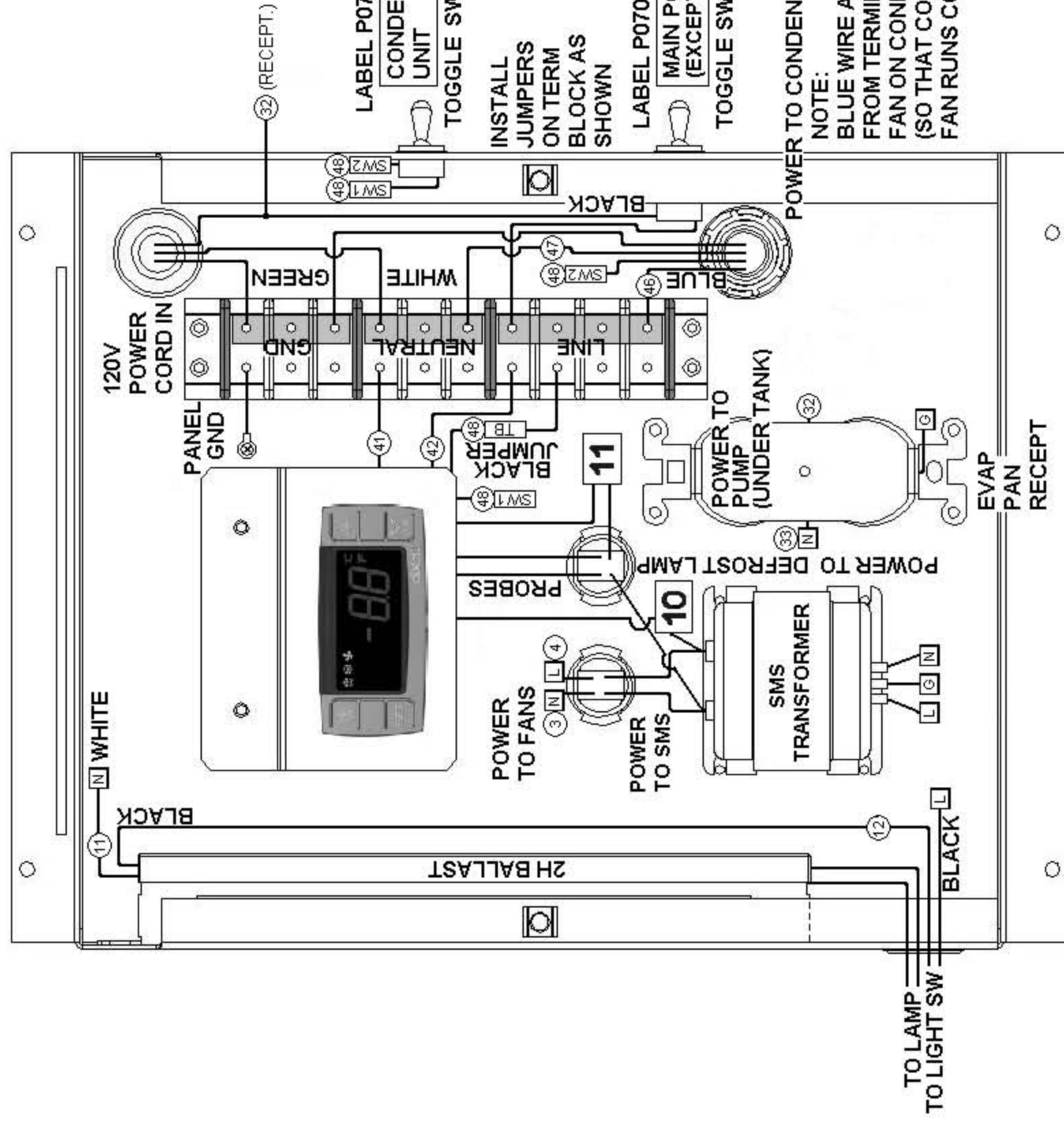
USE 22 AWG BELDEN 2 CONDUCTOR CABLE FOR DEEROST LAMP

USE 18 AWG FOR EVERYTHING ELSE

**DIXELL XR03CX CONTROLLER DETAIL**



WIRE TO CONDENSING UNIT JUNCTION BOX



# **APPENDIX B:**

## **CONTROL SETTINGS**

# DIGITAL CONTROLLER

## XR03CX

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### 2. GENERAL WARNINGS

#### PLEASE READ BEFORE USING THIS MANUAL

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.

#### SAFETY PRECAUTIONS

- Check the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent formation of condensation
- Warning: disconnect all electrical connections before any kind of maintenance.
- Fit the probe where it is not accessible by the End User. The instrument must not be opened.
- In case of failure or faulty operation send the instrument back to the distributor or to "Dixell S.p.A." (see address) with a detailed description of the fault.
- Consider the maximum current which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.
- In case of applications in industrial environments, the use of mains filters (our mod. FT1) in parallel with inductive loads could be useful.

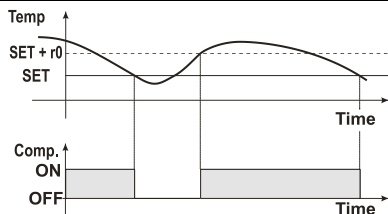
### 3. GENERAL DESCRIPTION

Model XR03CX, format 32 x 74 x 50 mm, is a digital thermostat with off cycle defrost designed for refrigeration applications at normal temperature. It provides a relay output to drive the compressor. It is also provided with 2 NTC probe input. The instrument is fully configurable through special parameters that can be easily programmed through the keyboard or the by HOTKEY.

### 4. REGULATION

#### THE REGULATION OUTPUT

The regulation is performed according to the temperature measured by the thermostat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature



In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "Cy" and "Cn".

### 5. DEFROST

Defrost is performed through an off cycle of the compressor. Parameter "id" controls the interval between defrost cycles, while its length is controlled by parameter "Nd". A defrost indicator light will illuminate during defrost and also after the defrost ends according to parameter "Fd"

### 6. FRONT PANEL COMMANDS



**SET**

To display target set point, in programming mode it selects a parameter or confirm an operation



To start a manual defrost



In programming mode it browses the parameter codes or increases the displayed value



**AUX**

In programming mode it browses the parameter codes or decreases the displayed value

#### KEYS COMBINATION



To lock or unlock the keyboard

To enter in programming mode

To return to room temperature display

LED	MOD0	SIGNIFICATO
	On	Compressor enabled
	Flashing	Anti short cycle delay enabled (AC parameter)
	On	Defrost in progress

	On	Defrost in progress
°C	On	Measurement unit
	Flashing	Programming mode
°F	On	Measurement unit
	Flashing	Programming mode

#### HOW TO SEE THE SET POINT

- Push and immediately release the **SET** key, the set point will be shown;
- Push and immediately release the **SET** key or wait about 5s to return to normal visualisation.

#### HOW TO CHANGE THE SETPOINT

- Push the SET key for more than 2 seconds to change the Set point value;
- The value of the set point will be displayed and the "°C" or "°F" LED starts blinking;
- To change the Set value push the  $\Delta$  or  $\nabla$  arrows within 10s.
- To memorise the new set point value push the SET key again or wait 10s.

#### HOW TO START A MANUAL DEFROST (ONLY XR02CX)

Push the DEF key for more than 2 seconds and a manual defrost will start

#### HOW TO CHANGE A PARAMETER VALUE

To change the parameter's value operate as follows:

- Enter the Programming mode by pressing the SET+  $\nabla$  keys for 3s ("°C" or "°F" LED starts blinking).
- Select the required parameter. Press the "SET" key to display its value
- Use  $\Delta$  or  $\nabla$  to change its value.
- Press "SET" to store the new value and move to the following parameter.

To exit: Press SET+  $\Delta$  or wait 15s without pressing a key.

**NOTE:** the set value is stored even when the procedure is exited by waiting the time-out to expire.

#### HIDDEN MENU

The hidden menu includes all the parameters of the instrument .HOW TO ENTER THE HIDDEN MENU

- Enter the Programming mode by pressing the SET+  $\nabla$  keys for 3s ("°C" or "°F" LED starts blinking).
- Released the keys, then push again the SET+  $\nabla$  keys for more than 7s. The L2 label will be displayed immediately followed from the Hy parameter.

**NOW YOU ARE IN THE HIDDEN MENU.**

- Select the required parameter.
- Press the "SET" key to display its value
- Use  $\Delta$  or  $\nabla$  to change its value.
- Press "SET" to store the new value and move to the following parameter.

To exit: Press SET+  $\Delta$  or wait 15s without pressing a key.

**NOTE1:** if no parameters are present in L1, after 3s the "nP" message is displayed. Keep the keys pushed till the L2 message is displayed.

**NOTE2:** the set value is stored even when the procedure is exited by waiting the time-out to expire.

#### HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA.

Each parameter present in the HIDDEN MENU can be removed or put into "THE FIRST LEVEL" (user level) by pressing SET+  $\nabla$ . In HIDDEN MENU when a parameter is present in First Level the decimal point is on.

#### TO LOCK THE KEYBOARD

- Press for more than 3s the  $\Delta$  and  $\nabla$  keys together.
- The "OF" message will be displayed and the keyboard will be locked. If a key is pressed more than 3s the "OF" message will be displayed.

#### TO UNLOCK THE KEYBOARD

Press together for more than 3s the  $\Delta$  and  $\nabla$  keys till the "on" message will be displayed.

### 7. PARAMETERS

#### REGULATION

**Hy Differential:** (0,1°C + 25°C) Intervention differential for set point. Compressor Cut IN is SET POINT + differential (Hy). Compressor Cut OUT is when the temperature reaches the set point.

**LS Minimum SET POINT:** (-55°C+SET/-58°F+SET): Sets the minimum value for the set point..

**US Maximum SET POINT:** (SET+99°C/ SET+99°F). Set the maximum value for set point.

**ot First probe calibration:** (-9.9+9.9°C) allows to adjust possible offset of the first probe.

**P2 Evaporator probe presence:** n= not present; y= the defrost stops by temperature.

**oE Second probe calibration:** (-9.9+9.9°C) allows to adjust possible offset of the second probe

**AC Anti-short cycle delay:** (0+50 min) minimum interval between the compressor stop and the following restart.

**Cy Compressor ON time with faulty probe:** (0+99 min) time during which the compressor is active in case of faulty thermostat probe. With Cy=0 compressor is always OFF.

**Cn Compressor OFF time with faulty probe:** (0+99 min) time during which the compressor is OFF in case of faulty thermostat probe. With Cn=0 compressor is always active.

#### DISPLAY

**CF Measurement unit:** (°C+°F) °C =Celsius; °F =Fahrenheit. **WARNING:** When the measurement unit is changed the SET point and the values of the parameters Hy, LS, US, oE, o1, AU, AL have to be checked and modified if necessary).

**rE Resolution (only for °C):**(dE ÷ in) dE= decimal between -9.9 and 9.9°C; in= integer;

**Ld Default display:** (P1 ÷ P2) P1= thermostat probe; P2= evaporator probe. SP=Set point

**dy Display delay:** (0+15 min.) when the temperature increases, the display is updated of 1 °C/1°F after this time.

#### DEFROST

**dE Defrost termination temperature:** (-50+50°C) if ot=Y it sets the temperature measured by the evaporator probe, which causes the end of defrost.

**id Interval between defrost cycles:** (0+99 ore) Determines the time interval between the beginning of two defrost cycles.

**Nd Maximum length for defrost:** (0+99 min. with 0 no defrost) when P2 = n, (no evaporator probe: timed defrost) it sets the defrost duration, when P2 = y (defrost end based on temperature) it sets the maximum length for defrost.

**dF Display during defrost:** (rt / it / St / dF) rt= real temperature; it= start defrost temperature; St= SET-POINT; dF= label dF.



- dP Defrost start after Power failure:** (n - y) n= the defrost clock will reset; y= start defrost after a power failure
- Fd Defrost indicator delay:** (0 – 99 min) the time delay that the defrost indicator light will stay on after a defrost

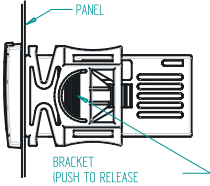
ALARMS

- AU Maximum temperature alarm:** (AL+99°C) when this temperature is reached the alarm is enabled, after the "Ad" delay time.
- AL Minimum temperature alarm:** (-55+AU°C) when this temperature is reached the alarm is enabled, after the "Ad" delay time.
- Ad Temperature alarm delay:** (0+99 min) time interval between the detection of an alarm condition and alarm signalling.
- dA Exclusion of temperature alarm at startup:** (0+99 min) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.

OTHER

- d2 Evaporator probe display (read only)**
- Pt Parameter code table**
- rL Software release**

8. INSTALLATION AND MOUNTING



Instrument **XR03CX** shall be mounted on vertical panel, in a 29x71 mm hole, and fixed using the special bracket supplied. The temperature range allowed for correct operation is 0+60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate by the cooling holes.

9. ELECTRICAL CONNECTIONS

The instrument is provided with Fast-on connections. Before connecting cables make sure the power supply complies with the instrument's requirements. Separate the probe cables from the power supply cables, from the outputs and the power connections. Do not exceed the maximum current allowed on each relay, in case of heavier loads use a suitable external relay.

9.1 PROBES

The probes shall be mounted with the bulb angled upward to prevent damages due to casual liquid infiltration. It is recommended to place the thermostat probe away from air streams to correctly measure the average room temperature. Place the defrost termination probe among the evaporator fins in the coldest place, where most ice is formed to prevent premature defrost termination.

10. HOW TO USE THE HOT KEY

10.1 HOW TO PROGRAM THE HOT KEY FROM THE INSTRUMENT (UPLOAD)

- Program one controller with the front keypad.
- When the controller is ON, insert the "Hot key" and push key; the "uP" message appears followed by flashing "En"
- Push "SET" key and the "En" will stop flashing.
- Turn OFF the instrument remove the "Hot Key", then turn it ON again.

**NOTE:** the "Er" message is displayed for failed programming. In this case push again o key if you want to restart the upload again or remove the "Hot key" to abort the operation.

10.2 HOW TO PROGRAM AN INSTRUMENT USING HOT KEY (DOWNLOAD)

- Turn OFF the instrument.
- Insert a programmed "Hot Key" into the 5 PIN receptacle and then turn the Controller ON.
- Automatically the parameter list of the "Hot Key" is downloaded into the Controller memory, the "do" message is blinking followed by flashing "En".
- After 10 seconds the instrument will restart working with the new parameters.
- Remove the "Hot Key"..

**NOTE:** the "Er" message is displayed for failed programming. In this case push again o key if you want to restart the upload again or remove the "Hot key" to abort the operation.

11. ALARM SIGNALLING

Mess.	Cause	Outputs
"P1"	Room probe failure	Compressor output according to "Cy" e "Cn"
"P2"	Evaporator probe failure	Defrost end is timed
"HA"	Maximum temperature alarm	Outputs unchanged
"LA"	Minimum temperature alarm	Outputs unchanged
"EA"	External alarm	Outputs unchanged
"CA"	Serious external alarm	All outputs OFF.
"nP"	No Parameters in L1	Outputs unchanged
"dA"	Door Open	Compressor and fans restart

11.1 ALARM RECOVERY

Probe alarms "P1" and "P2" start a few seconds after the fault in the related probe; they automatically stop a few seconds after the probe restarts normal operation. Check connections before replacing the probe, Temperature alarms "HA" and "LA" automatically stop as soon when temperature returns to normal values.

Alarms "EA" and "CA" (with iF=bL) recover as soon as the digital input is disabled.

12. TECHNICAL DATA

**Housing:** self extinguishing ABS.

**Case:** frontal 32x74 mm; depth 60mm;

**Mounting:** panel mounting in a 71x29mm panel cut-out

**Protection:** IP20; **Frontal protection:** IP65

**Connections:** disconnectable terminal block ≤ 2,5 mm² wiring and 6.3mm fast-on's

**Power supply:** according to the model ±10%; 230Vac ±10%, 50/60Hz, 110Vac ±10%, 50/60Hz

**Power absorption:** 3.5 VA max

**Display:** 2 digits, red LED, 14.2 mm high; **Inputs:** 2 NTC Probes

**Relay outputs:** compressor; 16FLA/96LRA, AUX: 10A

**Data storing:** on the non-volatile memory (EEPROM).

**Kind of action:** 1B; **Pollution grade:** 2; **Software class:** A.;

**Rated impulsive voltage:** 2500V; **Overvoltage Category:** II

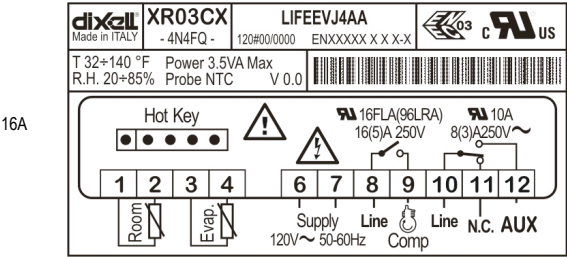
**Ambient temperature:** 0+60 °C; **Storage temperature:** -30+85 °C.

**Relative humidity:** 20+85% (no condensing)

**Measuring and regulation range:** NTC -40+110°C (-40+230°F);

**Resolution:** 0,1 °C or 1°C or 1 °F (selectable); **Accuracy (ambient temp. 25°C):** ±0,7 °C ±1 digit

13. CONNECTIONS



**NOTE:** Fast-on maximum current

14. DEFAULT SETTING VALUES

LBL	DESCRIPTION	RANGE	DEFAULT	LEVEL
REGULATION				
Hy	Differential	1 ÷ 45°F	2 °F	L1
LS	Minimum Set Point	-67°F÷SET	25°F	L2
US	Maximum Set Point	SET+99°F	40°F	L2
ot	First probe calibration	-18 +18°F	0°F	L2
P2	Second probe presence	n – Y	y	L2
oE	Second probe calibration	18 +18°F	0°F	L2
AC	Anti-short cycle delay	0 ÷ 50 min	2	L2
Cy	Compressor ON time faulty probe	0 ÷ 99 min	12	L2
Cn	Compressor OFF time faulty probe	0 ÷ 99 min	4	L2
DISPLAY				
CF	Measurement units	°C - °F	°F	L2
rE	Resolution (only for °C)	dE – in	in	L2
Ld	Default Display	P1 - P2	P1	L2
dy	Display delay	0 ÷ 15 min	0	L2
DEFROST				
dE	Defrost termination temperature	58+99°F	52 °F	L1
id	Interval between defrost cycles	0 ÷ 99 hours	4	L1
Πd	Maximum length for defrost	0 ÷ 99 min.	28	L1
dF	Display during defrost	rt – it – dF - St	rt	L2
dP	Defrost After Power Failure	n- y	y	L2
Fd	Defrost Indicator delay after defrost	0 – 99min	20	L2
ALARMS				
AU	Maximum temperature alarm	ALL÷99°F	55 °F	L2
AL	Minimum temperature alarm	-55°C÷ALU/- 67°F÷ALU	20 °F	L2
Ad	Temperature alarm delay	0 ÷ 99 min	5	L2
dA	temperature alarm delay at startup	0 ÷ 99 min	90	L2
OTHER				
d2	Evaporator probe display	Read Only	- - -	L1
Pt	Parameter code table	Read Only	- - -	L2
rL	Firmware release	Read Only	- - -	L2

# **APPENDIX C:**

## **USE & MAINTENANCE**

## IN- STORE SERVICE FOR ONNA-3



**DANGER**  
Electrical Shock Hazard  
Always disconnect power to  
case when servicing or  
cleaning.



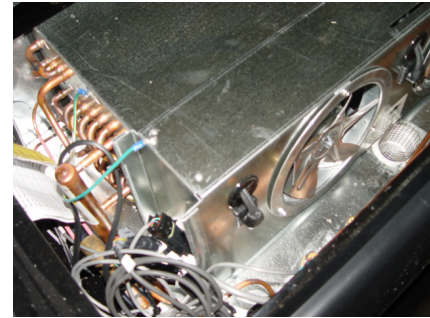
**WARNING**  
Switch Off Both Power Switches  
Before Pre-Cleaning Case.

### PRE-CLEANING

1. Relocate product to alternate refrigerated storage area, then turn off condensing unit and main power.
2. Both switches are located behind the upper access door.



3. Avoid Abrasive scouring powders or pads. DO NOT use cleaners containing abrasive materials or ammonia which will scratch or damage the finish.
4. Use mild cleaning solutions and warm water when necessary. A water and baking soda solution will help remove case odors.



5. Make sure the drain is free of any obstructions.
6. Using only a wet cloth and a bucket of clear water, wipe the case; never use a hose on a Self-Contained case with an evaporative pan.



7. DO NOT flood the case. Never introduce water faster than the waste outlet can remove it. The drain system is self-contained and pumps all the liquids to the top of the case for evaporation.



**CAUTION**  
The heating element in the  
evaporator pan is very hot when  
on.



8. DO NOT use hot or warm water on cold glass surfaces. This may shatter the glass and could result in personal injury. Allow all glass to warm before applying hot or warm water.
9. Avoid spraying cleaning solutions directly on fans or electrical connections.
10. DO NOT FORCE REMOVAL OF ICE AS THIS MAY CAUSE DAMAGE.

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## IN- STORE SERVICE FOR ONNA-3

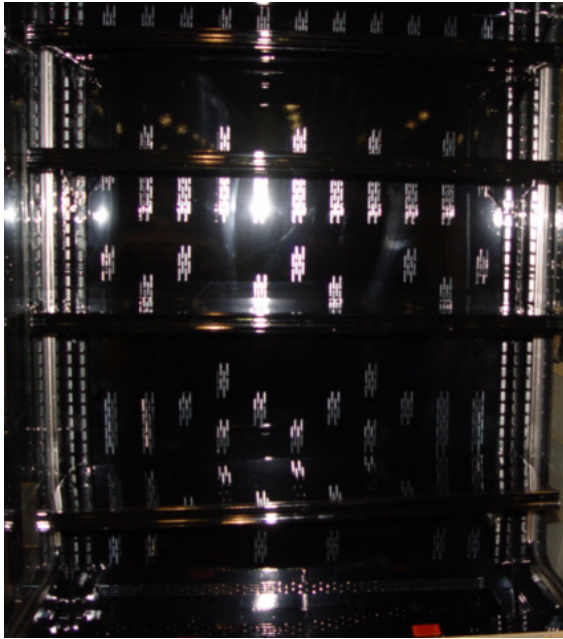


### **WARNING**

Verify Both Power Switches Are Off Before Cleaning Case.

### **CLEANING**

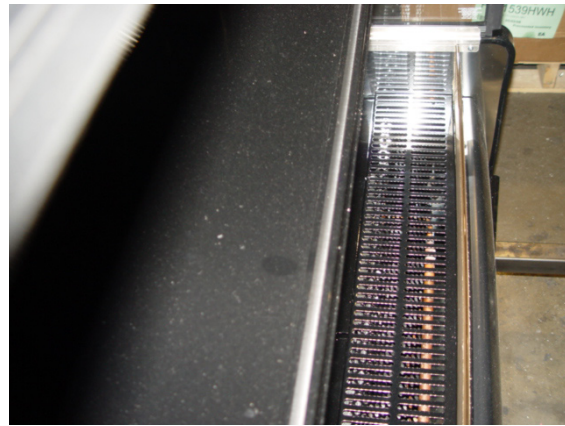
1. Verify that both switches were turned are OFF during pre-cleaning. Both switches are located behind the upper access door.



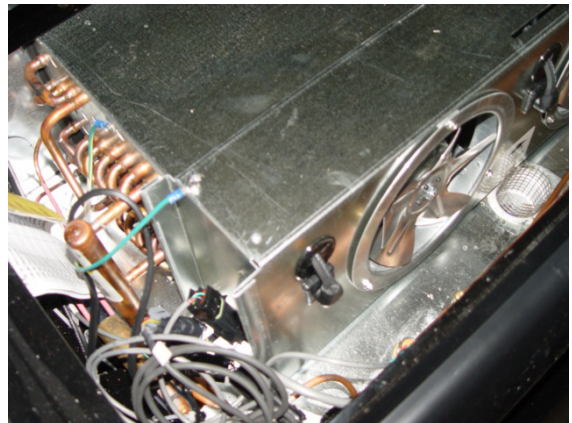
2. Always clean from the top down.
3. Remove all product stops, wire racks, removable tag moldings and deck pans.
4. Remove and clean the honeycomb discharge grill. A sink filled with warm sudsy water will simplify this task. It may be necessary to use spray detergent and a soft, long- bristle brush to get deep dirt.



5. Spray rear baffles (rear of case) with a mild cleaning solution, then wipe with a cloth or paper towels.



6. Spray shelves (starting at top) with a mild cleaning solution. Wipe each shelf (starting at the top,) ensuring that the groove in the tag moldings is thoroughly cleaned.



7. Use a "no rinse" cleaning solution when cleaning the tank. Follow the manufactures directions. Never allow water to flood the tank.
8. Spray the exterior of case with mild cleaning solution then wipe down with a cloth or paper towel.

### **SANITIZING**

1. Replace all tag molding, product stops and shelves removed during cleaning.
2. Spray the entire case including the coil, and tank area with sanitizer.
3. Allow to air dry. Any water remaining on the coil will turn into ice.
4. Replace remaining case components, deck pans, wire shelves and honeycomb.
5. Turn both switches ON. Both switches are located behind the upper access door.
6. Allow case to return to temperature BEFORE re- turning product to case.

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# IN- STORE SERVICE FOR ONNA-3

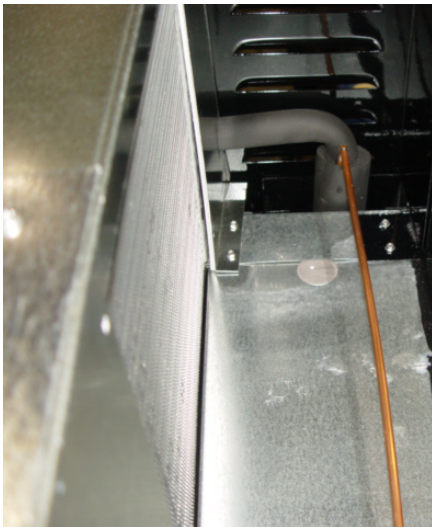
## FILTER CHANGING

In store service is limited and can be completed in just a few minutes each week.

1. Make sure that both switches are tuned OFF before starting to service the case. They are located just behind the upper access door.
2. Unplug both the sump pump and the evaporator heater pan from the duplex plug.



3. Remove the condenser filter element from the holder and replace it with a new one (P071083A)



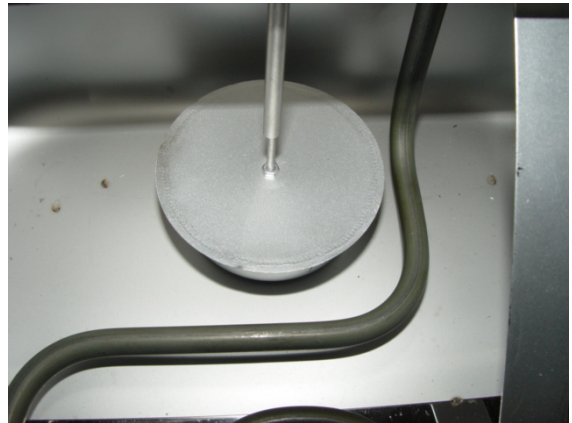
4. While the filter is removed check to see if the fins on the condenser are clean. If not, using care, a shop vacuum and a soft brush attachment clean any dirt or dust from the fins.
5. DO NOT bend any fins during filter change or cleaning operation. The case performance WILL BE REDUCED.



## CAUTION

The heating element in the evaporator pan is very hot when on.

6. Before cleaning the evaporator pan ensure that it has been unplugged, and allow to cool. Wipe the inside of the evaporator pan to remove residue and any debris that may have fallen into the chamber.



7. Ensure that the float can move freely.
8. Plug back in the Sump Pump and evaporator heater.
9. Turn on both switches, located just behind the upper access door.

## CLEANING PRODUCTS

Use the following specialty cleaning products for difficult stains that may appear:

- Armor All® for polymer parts
- 3M brand® Stainless Steel Cleaner and Polish
- 3M brand® Troubleshooter Cleaner
- 3M brand® Sharpshooter, Extra Strength No Rinse Cleaner
- Revere® aluminum powder for tank liner

## QUESTIONS?

If you have any questions or concerns, please contact Hill PHOENIX at 1-800-283-1109 (select extension "2444").

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P071253M SERVICE REV 0

# NOTES

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# NOTES



## WARRANTY

HEREINAFTER REFERRED TO AS MANUFACTURER

FOURTEEN MONTH WARRANTY. MANUFACTURER'S PRODUCT IS WARRANTED TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND MAINTENANCE FOR A PERIOD OF FOURTEEN MONTHS FROM THE DATE OF ORIGINAL SHIPMENT. A NEW OR REBUILT PART TO REPLACE ANY DEFECTIVE PART WILL BE PROVIDED WITHOUT CHARGE, PROVIDED THE DEFECTIVE PART IS RETURNED TO MANUFACTURER. THE REPLACEMENT PART ASSUMES THE UNUSED PORTION OF THE WARRANTY.

This warranty does not include labor or other costs incurred for repairing, removing, installing, shipping, servicing, or handling of either defective parts or replacement parts.

The fourteen month warranty shall not apply:

1. To any unit or any part thereof which has been subject to accident, alteration, negligence, misuse or abuse, operation on improper voltage, or which has not been operated in accordance with the manufacturer's recommendation, or if the serial number of the unit has been altered, defaced, or removed.
2. When the unit, or any part thereof, is damaged by fire, flood, or other act of God.
3. Outside the continental United States.
4. To labor cost for replacement of parts, or for freight, shipping expenses, sales tax or upgrading.
5. When the operation is impaired due to improper installation.
6. When installation and startup forms are not properly complete or returned within two weeks after startup.

THIS PLAN DOES NOT COVER CONSEQUENTIAL DAMAGES. Manufacturer shall not be liable under any circumstances for any consequential damages, including loss of profit, additional labor cost, loss of refrigerant or food products, or injury to personnel or property caused by defective material or parts or for any delay in its performance hereunder due to causes beyond its control. The foregoing shall constitute the sole and exclusive remedy of any purchases and the sole and exclusive liability of Manufacturer in connection with this product.

The Warranties are Expressly in Lieu of All Other Warranties, Express of Implied and All Other Obligations or Liabilities on Our Part. The Obligation to Repair or Replace Parts or Components Judged to be Defective in Material or Workmanship States Our Entire Liability Whether Based on Tort, Contract or Warranty. We Neither Assume Nor Authorize Any Other Person to Assume for Us Any Other Liability in Connection with Our Product.

MAIL CLAIM TO:

**Hill PHOENIX**  
Display Merchandisers  
1925 Ruffin Mill Road  
Colonial Heights, VA 23834  
1-800-283-1109

**Hill PHOENIX**  
Refrigeration Systems &  
Electrical Distribution Products  
709 Sigman Road  
Conyers, GA 30013  
770-285-3200

## **Warning**

### **Maintenance & Case Care**

**When cleaning cases the following must be performed PRIOR to cleaning:**

**To avoid electrical shock, be sure all electric power is turned off before cleaning. In some installations, more than one switch may have to be turned off to completely de-energize the case.**

**Do not spray cleaning solution or water directly on fan motors or any electrical connections.**

**All lighting receptacles must be dried off prior to insertion and re-energizing the lighting circuit.**

**Please refer to the Use and Maintenance section of this installation manual.**



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Due to our commitment to continuous improvement all specifications are subject to change without notice.  
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Visit our web site at [www.hillphoenix.com](http://www.hillphoenix.com)

